

CLAIMS

1. An apparatus for toasting food items comprising:
an inlet for receiving food items;
an outlet for discharging the food items after they are toasted;
a toasting chamber located between the inlet and the outlet, the toasting chamber defining at least one toasting path, the toasting chamber having at least one platen arranged along the path, at least one conveyor extending along the path, a means for impingement heating located along the path, and at least one infra-red heating element disposed along the path; and
a means for activating and controlling the conveyor to move the food items through the path.
2. The apparatus of claim 1 wherein the apparatus includes a housing.
3. The apparatus of claim 2 wherein there is more than one inlet.
4. The apparatus of claim 3 wherein there are at least two vertical inlets at the top of the housing to accept food items of differing size and shapes, the two inlets each coupled to a vertical portion of the pathway.
5. The apparatus of claim 3 wherein there are two horizontal inlets at the rear of the housing, the two inlets each coupled to a vertical portion of the pathway.
6. The apparatus of claim 5 wherein the horizontal inlets allow for the loading of muffins and bagels into the housing and onto the conveyor so as to avoid the platen heating element.
7. The apparatus of claim 1 wherein the inlet includes a foil heater plate to retain the heat in the food item.

8. The apparatus of claim 1 wherein there are two horizontal wire conveyors and one vertical wire conveyor, further comprising a metal plate inserted adjacent the horizontal wire conveyors to reflect and radiate heat from the infra-red heaters onto the food item.
9. The apparatus of claim 1 wherein, the toasting chamber defines two toasting paths, the toasting chamber having a platen arranged along each of the paths.
10. The apparatus of claim 9 wherein the apparatus includes a first inlet and second inlet for receiving food items, each inlet includes a respective platen arranged along the respective path, the first inlet has a first dimension and the second inlet has a second dimension different from the first dimension so as to allow for different size food products to move across the respective platen surfaces.
11. The apparatus of claim 10 wherein the platens will be heated by an embedded heating element.
12. The apparatus of claim 2 wherein the means for impingement heating includes a fan encased within the housing, the fan adapted to blow air across the path, and a metal reflector is arranged adjacent the infra-red heating element so that the reflector radiates heat and warms the air as it blows across the path.
13. The apparatus of claim 12 further comprising at least one baffle which directs the blowing air across the food item and the conveyor belt so as to further toast the food item and prevent heat loss.
14. The apparatus of claim 1 wherein there are eight infrared heating elements.
15. The apparatus of claim 1 wherein the means for activating and controlling the conveyor includes a motor with gears of differing sizes, and means for regulating the speed of the motor, so as to move the attached conveyor belts at differing speeds.

16. The apparatus of claim 15 wherein there are two motors.
17. The apparatus of claim 1 wherein the food item spends 6-8 seconds under each of the platen, impingement heating and infra-red heating element.
18. An apparatus for toasting food items comprising:
 - an inlet for receiving food items;
 - an outlet for discharging the food items after they are toasted;
 - a toasting chamber located between the inlet and the outlet, the toasting chamber defining at least one toasting path, the toasting chamber having at least one conveyor extending along the path, at least one platen extending along the path, and a means for impingement heating of the food items disposed therein; and
 - a means for activating and controlling the conveyor belt to move the food items through the path.
19. The apparatus of claim 18 wherein the apparatus includes a housing.
20. The apparatus of claim 18 wherein there is more than one inlet.
21. The apparatus of claim 20 wherein there are at least two vertical inlets at the top of the housing to accept food items of differing size and shapes, the two inlets each coupled to a vertical portion of the pathway.
22. The apparatus of claim 20 wherein there are two horizontal inlets at the rear of the housing, the two inlets each coupled to a vertical portion of the pathway.
23. The apparatus of claim 22 wherein the horizontal inlets allow for the loading of muffins and bagels into the housing and onto the conveyor so as to avoid the platen heating element.
24. The apparatus of claim 18 wherein the inlet includes a foil heater plate to retain the heat in the food item.

25. The apparatus of claim 18 wherein there are two horizontal wire conveyors and one vertical wire conveyor, further comprising a metal plate inserted adjacent the horizontal wire conveyors to reflect and radiate heat from an infra-red heater element onto the food item.
26. The apparatus of claim 25 wherein, the toasting chamber defines two toasting paths, the toasting chamber having a platen arranged along each of the paths
27. The apparatus of claim 26 wherein the apparatus includes a first inlet and second inlet for receiving food items, each inlet includes a respective platen arranged along the respective path, the first inlet has a first dimension and the second inlet has a second dimension different from the first dimension so as to allow for different size food products to move across the respective platen surfaces.
28. The apparatus of claim 27 wherein the platens will be heated by an embedded heating element.
29. The apparatus of claim 25 wherein the means for impingement heating includes a fan encased within the housing, the fan adapted to blow air across the path, and a metal reflector is arranged adjacent the infra-red heating element so that the reflector radiates heat and warms the air as it blows across the path.
30. The apparatus of claim 29 further comprising at least one baffle which directs the blowing air across the food item and the conveyor belt so as to further toast the food item and prevent heat loss.
31. The apparatus of claim 18 wherein the means for activating and controlling the conveyor includes a motor with gears of differing sizes, and means for regulating the speed of the motor, so as to move the attached conveyor belts at differing speeds.
32. The apparatus of claim 31 wherein there are two motors.

33. The apparatus of claim 18 wherein the food item spends 6-8 seconds under each of the platen and the impingement heating.
34. An apparatus for toasting food items comprising:
- an inlet for receiving food items;
 - an outlet for discharging the food items after they are toasted;
 - a toasting chamber located between the inlet and the outlet, the toasting chamber defining at least one toasting path, the toasting chamber having at least one platen arranged along the path, at least one conveyor extending along the path, and at least one infra-red heating element disposed along the path; and
 - a means for activating and controlling the conveyor to move the food items through the path.
35. The apparatus of claim 34 wherein the apparatus includes a housing.
36. The apparatus of claim 34 wherein there is more than one inlet.
37. The apparatus of claim 36 wherein there are at least two vertical inlets at the top of the housing to accept food items of differing size and shapes, the two inlets each coupled to a vertical portion of the pathway.
38. The apparatus of claim 36 wherein there are two horizontal inlets at the rear of the housing, the two inlets each coupled to a vertical portion of the pathway.
39. The apparatus of claim 38 wherein the horizontal inlets allow for the loading of muffins and bagels into the housing and onto a conveyor so as to avoid the platen heating element.
40. The apparatus of claim 34 wherein the inlet includes a foil heater plate to retain the heat in the food item.

41. The apparatus of claim 34 wherein there are two horizontal wire conveyors and one vertical wire conveyor, further comprising a metal plate inserted adjacent the horizontal wire conveyors to reflect and radiate heat from the infra-red heaters onto the food item
42. The apparatus of claim 34 wherein, the toasting chamber defines two toasting paths, the toasting chamber having a platen arranged along each of the paths
43. The apparatus of claim 42 wherein the apparatus includes a first inlet and second inlet for receiving food items, each inlet includes a respective platen arranged along the respective path, the first inlet has a first dimension and the second inlet has a second dimension different from the first dimension so as to allow for different size food products to move across the respective platen surfaces.
44. The apparatus of claim 43 wherein the platens will be heated by an embedded heating element.
45. The apparatus of claim 34 wherein there are 8 infrared heating elements.
46. The apparatus of claim 34 wherein the means for activating and controlling the conveyor includes a motor with gears of differing sizes, and means for regulating the speed of the motor, so as to move the attached conveyor belts at differing speeds
47. The apparatus of claim 46 wherein there are two motors.
48. The apparatus of claim 34 wherein the food item spends 6-8 seconds under each of the platen, and infra-red heating.